Air Force SBIR Impact

Cost Effective & Structurally Efficient Composite Sandwich Material

Company:
WebCore Technologies, Inc.

Location:
Dayton, OH

Employees:
22

President:
Dan Hutcheson

Project Officers:
Dick Holzwarth &
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AFRL Air Vehicles Directorate

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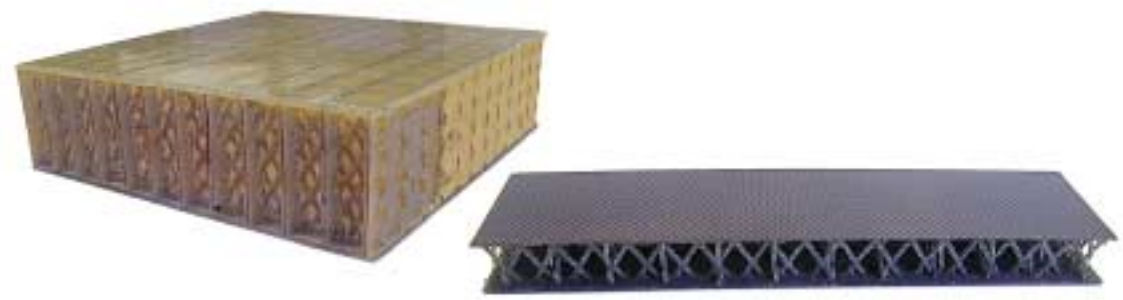

Air Force Requirements:

The Air Force Research Laboratory's (AFRL) Materials and Manufacturing Directorate, Air Vehicles, and the Armament Directorates formed a unique partnership to develop and transition a new structural composite sandwich material that would be more cost effective and structurally efficient than current state-of-the-art core materials.

SBIR Technology:

WebCore Technologies Inc. won SBIR Phase I and II contract grants to pioneer the development of TYCOR™ Fiber Reinforced Foam Cores. TYCOR cores are used for making robust composite sandwich panels that combine superior structural performance and durability at an affordable cost when compared with traditional foam core materials such as honeycomb, foam and balsa.

TYCOR cores also offer a high degree of design flexibility. By using different types of foam, fibers, and fabrics, WebCore can customize its TYCOR cores to meet the structural and functional requirements and as well as cost target of a sandwich panel application. WebCore's unique manufacturing process provides z-direction reinforcements to build a strong, three-dimensional "web and lattice" fiber architecture within low-density foam. The result is improved structural performance and durability.

TYCOR cores and sandwich panels have also exhibited excellent mechanical and structural properties as well as fatigue resistance and superior impact damage tolerance under testing.

For more information on this story, contact Air Force TechConnect at 1-800-203-6451 or at www.afrl.af.mil/techconn/index.htm

Company Impact:

TYCOR's unique performance advantages and design flexibility helped position WebCore to receive two additional SBIR grants from AFRL. Under the grants, WebCore will develop low-cost composite fuselage and structural components for the Unmanned Combat Aerial Vehicle (UCAV), and Joint Air to Surface Standoff Missile (JASSM) and other military and commercial applications. WebCore is working closely with the leading aerospace companies such as The Boeing Company, Lockheed Martin, Northrop Grumman and General Electric to develop structural components for UCAV.

Company Quote:

"The Air Force was instrumental in helping WebCore advance the development of a promising technology. The continued development of this technology, which has unlimited applications, will help WebCore break open large commercial markets for fiberglass and advanced composite materials. This step will allow WebCore to take advanced technology, make it affordable for widespread use, and give customers new products with a sustainable competitive advantage in many markets. The SBIR program has also supported WebCore's transition from research and development to limited production of TYCOR cores and sandwich panels with plans to reach full-scale production by 2002."

Dan Hutcheson
President
WebCore Technologies, Inc.

SBIR

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AF Topic# 99-179
Sec. Rev.# ASC –01 -0235
Impact Story IS#31.0 – 02/02